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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/600,047

06/19/2003

Louis A. Lippincott

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02/20/2008

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EXAMINER

DANG, DUY M

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/600,047

Applicant(s)

LIPPINCOTT, LOUIS A.

Examiner

Duy M. Dang

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 9 and 19--30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9 and 19-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because of informal drawings submitted 6/19/03. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance. Additionally, the subject matter of the amended features to amended claims ought to be included/shown in the new drawings.

#### *Response to Amendment*

2. Applicant's arguments (Argument) filed 11/21/07 have been fully considered but they are not persuasive. Currently, claims 1-6, 9 and 19-30 are pending.

(a) In response to Argument with regard to rejection of claims 25-30 under section 101, see 2<sup>nd</sup> paragraph of page 7), such rejection has been withdrawn.

(b) In response to Argument with regard to the rejection of claims 1-6, 9 and 19-30 under section 102(b) as set forth at pages 7-8 of the Applicant's response filed 11/21/07, the examiner would like to offer the following remarks:

(i) In response to Argument that the applied reference, Li (EP 0257581A, referred as Li hereinafter), does not disclose "*wherein the first processor includes a type of hardware accelerator that is not included in the second processor*" (see last paragraph of page 7 to first 4 lines of page 8), the examiner disagrees respectively. For example, figure 14 in together with lines 26-30 and 51-56 of page 7 in Li corresponds to this claimed limitation. In Li, the "square" depicted in figure 14 as described at lines 50-56 of

page 6 represents processor element which performs processing operations such as arithmetic operation, logical operation, transform operation according to lines 26-30 of page 6. Such operation described in Li corresponds to claimed "hardware accelerator" according to item 6 (ALU) of figure 1, line 3 of page 7 (hardware ALU), item 96 (ALU) of figure 21. Furthermore, the "circle" depicted in figure 14 represents a pass-through processing element. Therefore, processing element depicted as "square" includes a type of hardware accelerator that is not included in processing element depicted as "circle" because processing element depicted as "circle" is programmed as "no-op" or "pass-through".

(ii) In response to Argument that Li does not disclose "*wherein the first processor element in the first processor is configured to perform the first data process operation on data streams received into the expansion interface at least simultaneously in part with second data process operation performed by the second processor element in the second processor*", the examiner disagrees respectively. First, Li does teach expansion interface (see external memory and host H 3 at lines 15-20 of page 7 and figure 1). Lastly, Li does teach that the first processor element in the first processor is configured to perform the first data process operation on data streams received into the expansion interface at least simultaneously in part with second data process operation performed by the second processor element in the second processor, see figure 14 and examiner's response set forth at (i) above. For example, "square" processing element perform data operations (i.e., arithmetic operation, logical operation, transform operation) on the received data streams while "circle" processing element perform "pass-through" operation which

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corresponds to the so called "second data processing operation performed by the second processor element in the second processor".

*Specification*

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, 8 and 19-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Li (EP 0257581A2, referred as Li hereinafter).

With regard to the amended features, the advanced statements set forth at paragraph 3 above are incorporated hereinafter.

Regarding claim 1, Li teaches an apparatus (i.e., array of MxM processing element PEs depicted at figure 1 and each PE comprising arithmetic and logical unit ALU 6 as depicted in figure 1 as well) comprising: a first processor that includes a first processor element (i.e., PE at (0,0) of figure 1); and a second processor that includes a second processor element (i.e., PE at (0,2) of figure 1), wherein the first processor is configured to transmit data to the second processor through a third processor (i.e., PE at (0,1) of figure 1. Note this PE refers to claimed "third processor" in together with the function of each PE described at page 6 lines 54-55),

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wherein no processor element within the third processor is configured to perform a process operation on the data as part of the transmission of the data from the first processor to the second processor (see connection control mechanism CCM 8 of figure 8 and described at page 5 lines 26-32).

The advanced statements as applied to claim 1 above are incorporated herein. Li further teaches: wherein the first processor is not directly connected with the second processor (i.e., PE at (0,0) is not directed connected with the second PE at (0,2) according to figure 1) as required by claim 2; wherein no processor element within the third processor is involved in the transmission of data from the first processor to the second processor through the third processor (i.e., the PE at (0,1) of figure 1 corresponds to the so-called "third processor") as required by claim 3; wherein the first processor, the second processor and the third processor are coupled together in a point-to-point configuration as required by claim 4 (i.e., PE at (0,2) and PE at (0,1) are coupled in the point-to-point configuration as shown in figure 1); hardware accelerator (see memory 7 of figure 1 and registers 37 and 37 of figure 3. This interpretation is consistent with applicant's disclosed paragraph [0045]) as required by claim 7; expansion interface (i.e., host computer 3 and bus 9 as shown in figure 1) as required by claim 8.

Regarding claims 5 and 19-28, the rejection of claims 1-4 and 7-8 above are incorporated herein.

### *Conclusion*

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duy M. Dang whose telephone number is 571-272-7389. The examiner can normally be reached on Monday to Friday from 6:00AM to 2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen D. Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

dmd  
2/08



**DUY M. DANG**  
**PRIMARY EXAMINER**